

### REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

Claims 16-65 were pending in this application. Claim 52 has been amended to recite the features of claim 57 (now cancelled), and claim 65 has been amended to correct a minor typographical error. Accordingly, claims 16-56 and 58-65 will be pending herein upon entry of this Amendment. For the reasons stated below, Applicants respectfully submit that all claims pending in this application are in condition for allowance.

In the Office Action, claims 16-65 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

In addition, claims 16-24, 26, 27, 35-37 and 39 were rejected under 35 U.S.C. §102(b) as being anticipated by Su et al. (U.S. Patent 5,852,251); claim 65 was rejected under 35 U.S.C. §102(b) as being anticipated by Cakewalk Professional for Windows User's Manual (version 2.0; 1993. Twelve Tone Systems); claim 52 was rejected under 35 U.S.C. §102(b) as being anticipated by Goede (U.S. 5,952,598); claims 25, 38, 40-42, 44-47, and 50-51 were rejected under 35 U.S.C. §103(a) as being unpatentable over Su et al., in view of Cakewalk Professional for Windows User's Manual (version 2.0; 1993. Twelve Tone Systems); and claims 26, 28-34, 43, 48 and 49 were rejected under 35 U.S.C. §103(a) as being unpatentable over Su et al., in view of Heidorn et al. (U.S. Patent 5,693,903). To the extent these rejections might still be applied to claims presently pending in this application, they are respectfully traversed.

Examiner Warren is thanked for the courtesies extended to inventor David Smith and Applicants' representative during the personal interview conducted January 18, 2007. The substance of the interview is incorporated into the following remarks.

**§112, first paragraph, rejection**

The Office Action raises several concerns regarding adequate support for claim language recited in claims 16, 52 and 65. These concerns were addressed during the January 18, 2007 interview and are repeated below for the record.

**(Claim 16) Support for “a first data structure representing a plurality of musical pieces”**

- The term “Musical piece” can refer to individual musical pieces, or a collection of musical pieces. (See attached document “Defining ‘Piece of Music’”)
- Previous patents (Su, etc.) provide methods of controlling a single entity, and thus multiple individual pieces are unable to be differentiated.
- Thus the invention's first data structure must refer to multiple individual pieces, each being differentiated.

Support for the plurality of musical pieces as separate entities can be seen in

- [0086] ...the term “show” means a certain set of songs put together to create a particular performance...
- [0112] *...Once the instrumental template has been defined, a song template is generated for each song*
- [0114] *Once the template is complete, then the input of the score can begin. ... This initial entry of the score can be referred to as the first pass. Preferably, each song is placed in a separate file.*
- [0116] *...This version of the show is now available for any production that may need to use the score in the future. In other words, this show can be the basis for a first data structure. Preferably, this first data structure is not directly altered or modified but rather, non-destructive modifications are applied to the first data structure by the second data structure.*

More succinctly:

- [0232] *The load song step 1820 is shown in greater detail in FIG. 19. Preferably, every song has an associated sequence file. Those sequence files are loaded in step 1902. These sequence files are generally files that can be characterized as the first data structure or pristine music files.*

**(Claim 16) “A first data structure representing a musical piece”**

It is respectfully submitted that it is standard practice to refer to entire musicals as “pieces.” It is also standard practice for a single song from a musical to be referred to as a “piece.” See references in the attached document entitled “Defining Piece of Music.”

**(Claim 16) “A first data structure related to a song”**

- [0030] refers to “another aspect” of the invention, and therefore does not refer to all aspects of the invention.
- It is noted that a relationship does not exclude additional relationships. Thus, for example, one may be related to his sister, but that does not mean that he is not related to his brother.
- Thus, a first data structure relating to a song may also be related to additional songs.

**(Claim 16) *Assertion that Applicant has defined first Data Structure to be synonymous with “pristine file”***

Applicant notes that the phrase “pristine file” does not appear in the specification as filed.

On the other hand, a search through the specification reveals the following references:

- pristine files [0232]
- Pristine data or the first data structure [0173]
- Pristine Show [0234]
- Pristine Digital Bit Stream [0034] [0035] [0105] [0207] [0236]
- Pristine tempo [0332]
- Pristine .SHO file [0144] (Note this is a read only second data structure file).

In fact, there are specific references to the first data structure being synonymous with multiple files. See [0116] and [0232].

**(Claim 16) *Assertion that individual songs have individual data structures in view of***

***[0233] - “[a]fter the sequence file for the song has been loaded, the song defaults are loaded.”***

- [0233] refers to only one step within the entire load process, after global parameters, instrument parameters, and other songs possibly may have been loaded before. The actual load is much longer and contains additional information. See [0231] and figure 18.
- The first data structure preferably consists of a set of sequences, and the second data structure consists of all other modifying structures. Although individual first data structure songs can have instructions from within the second data structure, and it is possible to isolate these instructions within the second data structure, they are stored within the overarching second data structure, which also contains global and instrument information not related to specific songs, yet modifies the output of the first data structure material.
- Further [0418] states that an existing song can be cloned and added to the song list. This song can then be accessed, and edited so that it is different from the original song in the song list. This produces a result where a show exists with the same song used twice, but with different performance modifications. From this it is obvious that the single first data structure sequence has two separate structures used to make modifications, and therefore the “individual song” was more than one (and therefore not individual) structure.

**(Claim 16) Support for “*the second data structure including instructions for selecting from among and arranging the plurality of musical pieces including arranging music on the respective tracks.*”**

- Arranging the plurality of musical pieces can be found in [0418]. *Music system 106 allows the user to modify a song list. For example, the user can reorder songs, delete songs, and add copies of existing songs or clone copies of pre-edited songs*
- The song list can be seen to order the musical pieces during load time in [0231]. *The song list is then opened in step 1816. After the song list has been opened, the load process enters a loop where all of the songs associated with the score are loaded.*
- Arranging music on the respective tracks involves making modifications to the tracks. The respective tracks are instrument tracks, and they can be arranged via the operation actions or maps. A list of the types of actions that can be used to arrange the music can be found in [0240]. One example, muting can find many instances of reference within the specification, such as [0133] [0150] [0166ff] [0199] [0240] etc.

**(Claim 52) Support for “a first show file” and “a second show file”.**

- This feature is clearly described in [0144]. *Later, significant changes might be made to adapt a show to suit a particular need. Those modifications are preferably stored in different show files, which can have different names and extensions.*
- Further reference to different show files can be found in [0230]. *If the default show is not used, then music system 106 asks the user to select a show in step 1804.*
- An explicit example of multiple show files can be seen in figure 32: There are three versions of show jh1 on lines 4, 5 and 6. Each could be selected and would result in a different performance.

**(Claim 52) Support for first and second show files producing first and second**

**modified outputs.**

- [0393] *Music system 106 provides many functions and tools to edit and customize the songs and/or shows*
- [0397] *Music system 106 allows the user to save a new version of the currently active show.*

With a new version of the show, the user can then make modifications to the new version, such that the output is changed. This would be a different modified output from the original version. Some examples of modifications and references can be found below:

- [0398] *Music system 106 allows the user to mute instruments*
- [0405] *Music system 106 allows the user to quickly shorten or extend a song*
- [0410] *music system 106 can allow the user to customize the way the user plays the music system.*
- [0414] *Music system 106 allows the user to change the key easily when a song is too high or low for a particular performer*
- [0418] *Music system 106 allows the user to adjust the mix of the orchestra on a show or song basis*

Performing any of these edits to the new version will create a second version of the show file that produces different modified musical output from the original version.

**(Claim 52) Support for how a show file (the .SHO extension) operates on a MIDI file to produce modified output (the MIDI file is not itself modified).**

Preliminarily, claim 52 specifically states “*wherein the MIDI file remains intact such that it is itself not modified.*” Thus, it is important to understand that a given MIDI file (in this claimed embodiment) is NOT modified: only the output is modified.

Regarding ways that a particular show file can be used to modify the first data structure can be found throughout the specification. For example [0288] states:

***A show file 108 contains information that allows the manipulation first file or data structure 102. File 108 can include a variety of different types of information. Some of the types of information include information related to: (1) the properties of instruments, (2) order of show, (3) global parameters, (4) actions, (5) song parameters, (6) group memberships. A single file may contain all of this data, or the data may be split into separate files, each file containing a specific type of information. If the data is split into different files, then these files can be referred to as maps, and can then be referred to by the original file 108.***

Moreover, most of the specification discusses the various ways that information can be used to manipulate the underlying information.

Specifically, a detailed description of metaevent modification of the first data structure begins at [0236]. Note that one of the ways that metaevent information can be stored is in show structures as noted in [0239]. [0240] describes the action classes that can be used for modification purposes. This is more specifically defined in [0270] following.

- [0213] describes how the schedule can be used to evaluate whether a modification update to the pristine bit stream needs to occur at the clock cycle level.
- [0298] ff describes how these events are used to make a modification.

- [0302] demonstrates how a mute action within the second data structure will prevent pristine first data structure information for that particular instrument from being output. This is an obvious example of a modification.
- [0400] indicates a preferred embodiment that allows for such muting events to be placed into the second data structure.
- [0405] indicates how to add information allowing a song to be shortened or lengthened with repeats cuts and vamps.
- [0417] discloses a technique to add volume change information on an instrument by instrument basis.
- [0311]ff describes how tempo modifications can be made to the performance stream without modifying the underlying tempo of the first data structure.

**(Claim 65) Support for embedding port information into at least one of a predetermined MIDI track name.**

An instrument template is first defined

- [0102] *The process preferably begins by having the user define all of the instruments that participate in the score and define instrument templates 302*

Input is preferably done through standard MIDI files.

- [0102] *Preferably, so that every standard MIDI file that is associated with a particular show has the exact same set of instruments going to the exact same*

Ports are assigned within the instrument name.

- [0102] *MIDI outputs, instruments are given names that are similar so that there is a common port assignment for that instrument and that port assignment will be consistent throughout the various songs that comprise a score.*

Standard MIDI files have no way of assigning port information to a track, therefore the information needs to be embedded in another way. [0110] describes a variety of different parameters that can be embedded into the track name, including port.

- [0110] *...an instrument template can be constructed that describes the various features of each instrument. These templates can include a variety of different aspects, some of which are included in a sample template shown in FIG. 4. Some of basic components of*

*the instrument definition include: the order of each instrument, a unique instrument id 400, which output channel each instrument will use 402, which port each instrument will use 404, the name or label of each instrument 406, and whether the instrument is a transposing or non transposing instrument 408. In FIG. 4, the instrument template contains six instruments. Of course, a greater number or a lesser number of instruments could be used.*

Figure 4 shows an example of six instruments, the first four using port B, the second two using port C. The port assignment can clearly be seen as embedded within the name.

In view of the foregoing multiple citations to the specification that provide clear support to the limitations in the claims, Applicants respectfully request that the §112, first paragraph, rejection of the claims set forth in the Office Action be reconsidered and withdrawn.

#### **Prior Art Based Rejections**

The art-based rejections presented in the Office Action mailed September 25, 2006, are identical to those asserted in the Office Action mailed February 24, 2006, except for the §102(b) rejection of claim 52 based on Goede.

As explained in detail in a prior response, none of Su, Cakewalk, or Heidorn, taken singly or in combination, disclose or suggest the features of the present invention as recited in the independent claims. Su has no structure that, for example, allows for handling multiple pieces and, as such, cannot anticipate the claim 16 limitations of “selecting from among and arranging the plurality of musical pieces including arranging music on the respective tracks.” In that the specification clearly supports the notion of multiple pieces comprising the recited first data structure and that the second data structure is operative to arrange those multiple pieces, Applicants submit that Su cannot anticipate claim 16, or render obvious claims dependent on claim 16, even in combination with other applied prior art.

Regarding the new rejection of claim 52 as being anticipated, under §102(b), by Goede, Applicants have amended independent claim 52 to recite the subject matter of now-cancelled claim 57. As such, claim 52 now recites a particular form of manipulation of the musical output, namely modifying pitch of the musical output, establishing a vamp during the playing of the musical output, and modifying a tempo associated with the musical output. None of these kinds of musical manipulations are described by Goede, which describes only rearranging digital information (see, e.g., abstract, and col. 4, lines 17-18). Goede is silent regarding manipulating musical information in the manner required by amended claim 52. As such, Goede cannot anticipate amended claim 52 under §102(b), and none of the other cited prior art cures the deficiencies of Goede.

Finally, in regards to the §102(b) rejection of claim 65 based on the Cakewalk reference, a Cakewalk file does not conform to a standard MIDI file, and, if a Cakewalk file were converted to a standard MIDI file, any port information would be lost. This is contrasted with claim 65, which expressly requires the use of MIDI files and port information. Thus, the Cakewalk reference cannot anticipate claim 65.

In view of the foregoing all of the claims in this case are believed to be in condition for allowance. Should the Examiner have any questions or determine that any further action is desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone applicants' undersigned representative at the number listed below.

Serial No.: 10/731,085  
Art Unit: 2682

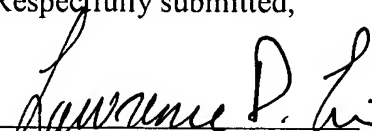
Attorney's Docket No.: RMS0001-CON  
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Respectfully submitted,

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Attachments: Defining "Piece of Music"

LDE/dkp

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## 2) DEFINING “PIECE OF MUSIC”

“Piece” was chosen very specifically, and has a known meaning in the art. It is a general term that can refer to any arbitrary grouping of musical events that are structurally coherent. Thus, a phrase, section, song, movement, or multi-movement work can all be referred to as a piece.

For example, at Wordnet.princeton.edu,

(<http://wordnet.princeton.edu/perl/webwn?s=piece%20of%20music>)

It is defined as “*A musical work that has been created*”, and the example given is “*the composition is written in four movements*”: clearly this definition shows an example of a multi-movement (or song) work as the intent of the term.

In Wikipedia, ([http://en.wikipedia.org/wiki/Definition\\_of\\_music](http://en.wikipedia.org/wiki/Definition_of_music)) under “Music” one can find an example of the term “piece” as applied to John Cage’s 4’33”, “which is notated in three movements”

This is also clear in freedictionary.com

(<http://www.thefreedictionary.com/piece+of+music>).

Another example of the use of the term can be found in the Wikipedia article on Mozart ([http://en.wikipedia.org/wiki/Wolfgang\\_Amadeus\\_Mozart](http://en.wikipedia.org/wiki/Wolfgang_Amadeus_Mozart))

“However, the visit sparked the composition of one of Mozart’s great liturgical pieces, the Mass in C Minor, which, though not completed, was premiered in Salzburg, and is now one of his best-known works.”

As a quick check to see how “piece” is used to refer specifically to entire musical, do a google on “Sondheim piece musical”. I received 227,000 hits, and the first ten hits referred to piece in the following relationships. I provide specific web references for the first four:

*The Frogs*: As a purely musical, Sondheim **piece**...

<http://www.amazon.com/Frogs-2004-Broadway-Cast/dp/B0006SSMWY>

*Pacific Overtures*: “More than most musicals, “Pacific Overtures is a **piece** that loses something...”

<http://www.amazon.com/Pacific-Overtures-1976-Original-Broadway/dp/B000002W6P>

Note that in this citation, one can find examples of the use of the word “piece” as sections of the show, as individual songs within the show, and as the entire show itself.

*A Little Night Music*: “Prince, Sondheim, and book-writer Hugh Wheeler did not, however, agree entirely on the direction the new **piece** should go”

<http://larryavisbrown.homestead.com/files/Sondheim/littlenightmusic.htm>

*Passion:* "It was good to see a new take on this **piece**...director L. Walter Stearns offered an interpretation that made more sense to me, and, in its ambivalence toward the characters, even more of a Sondheim **piece** than the show Lapine directed." □*John*

*Olson, The Sondheim Review*

<http://www.porchlighttheatre.com/production.htm>

An obvious intent of the term can be derived from the expression "masterpiece". This refers to a composer's best examples of composition within the art-form. A quick google of, for example, "Mozart masterpiece opera" or "Sondheim masterpiece musical" will find thousands of references to operas and musicals, which are

From these references, it is clear that "piece of music" as used within the art, can clearly mean multi-movement works. It can also refer to single movement works of songs.